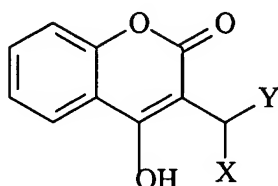


Claims

We claim:

1. An anticoagulant compound having the following formula:

Formula I

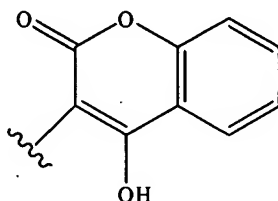


wherein:

X is hydrogen, alkyl, cycloalkyl, halogen, heterocyclyl, hydroxy, alkoxy, R_2 , heteroaryl or aryl optionally substituted with halogen or COOR_1 ;

R_1 is independently in each occurrence hydrogen, alkyl or alkylaryl, all optionally substituted with lower alkyl, hydroxy, halogen, or alkoxy;

R_2 is



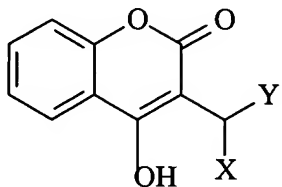
Y is $(\text{CHR}_3)_n\text{COOR}_4$ or aryl optionally substituted with COOR_5 wherein $n = 1 - 3$;

R_3 is hydrogen, alkyl or alkylaryl, aryl all optionally substituted with lower alkyl, hydroxy, halogen, or alkoxy;

R_4 is hydrogen, alkyl or alkylaryl, aryl all optionally substituted with lower alkyl, hydroxy, halogen, or alkoxy; and

R_5 is independently in each occurrence hydrogen, alkyl or alkylaryl, aryl all optionally substituted with lower alkyl, hydroxy, halogen, or alkoxy.

2. A pharmaceutical composition comprising an anticoagulant compound having the following formula:

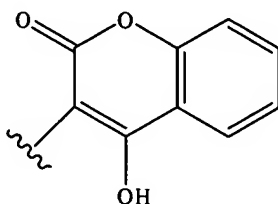


wherein:

X is hydrogen, alkyl, cycloalkyl, halogen, heterocyclyl, hydroxy, alkoxy, R_2 , heteroaryl or aryl optionally substituted with halogen or COOR_1 ;

R_1 is independently in each occurrence hydrogen, alkyl or alkylaryl, all optionally substituted with lower alkyl, hydroxy, halogen, or alkoxy;

R_2 is



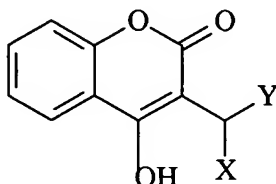
Y is $(\text{CHR}_3)_n\text{COOR}_4$ or aryl optionally substituted with COOR_5 wherein $n = 1 - 3$;

R_3 is hydrogen, alkyl or alkylaryl, aryl all optionally substituted with lower alkyl, hydroxy, halogen, or alkoxy;

R_4 is hydrogen, alkyl or alkylaryl, aryl all optionally substituted with lower alkyl, hydroxy, halogen, or alkoxy; and

R_5 is independently in each occurrence hydrogen, alkyl or alkylaryl, aryl all optionally substituted with lower alkyl, hydroxy, halogen, or alkoxy.

3. A method for providing anticoagulant activity to a patient in need of such activity wherein said method comprises administering to said patient an anticoagulant compound having the following formula:

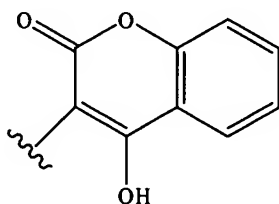


wherein:

X is hydrogen, alkyl, cycloalkyl, halogen, heterocyclyl, hydroxy, alkoxy, R_2 , heteroaryl or aryl optionally substituted with halogen or COOR_1 ;

R_1 is independently in each occurrence hydrogen, alkyl or alkylaryl, all optionally substituted with lower alkyl, hydroxy, halogen, or alkoxy;

R_2 is



Y is $(\text{CHR}_3)_n\text{COOR}_4$ or aryl optionally substituted with COOR_5 wherein $n = 1 - 3$;

R_3 is hydrogen, alkyl or alkylaryl, aryl all optionally substituted with lower alkyl, hydroxy, halogen, or alkoxy;

R_4 is hydrogen, alkyl or alkylaryl, aryl all optionally substituted with lower alkyl, hydroxy, halogen, or alkoxy; and

R_5 is independently in each occurrence hydrogen, alkyl or alkylaryl, aryl all optionally substituted with lower alkyl, hydroxy, halogen, or alkoxy.